Regrid MOA Action Items for OpenSource Operational Software Delivery

Table 1: General Regrid MOA OpenSource Delivery Information

Row Number	Information Description	Detail
1	Targeted Delivery Date	March 3, 2006
2	SCCR number	615
3	Software Included in delivery package	Regrid MOA Subsystem
4	CERESlib Delivery	SCCR 616 (moa_io modules)
5	SARB PGE(s) included in delivery	PGE CER12.1P1
6	Sample Read Package	N/A
7	Other Affected Subsystems	N/A
8	Documentation Updates	Test Plan Operator's Manual DPC
9	Subject Matter Experts	SCIENCE TEAM Tom Charlock Fred Rose Dave Rutan OPENSOURCE CONVERSION Jim Donaldson Henry Flippo Danny Mangosing

Table 2: Regrid MOA OpenSource Delivery Action Items

Action Item	Requirement Definition	Status Update	Verification of completion
Implement Regrid MOA Requirement 12-1.0	Defined by Mike Little during DMT meetings	Email 1. Initial test results Email 2. Problem with ECMWF library Email 3. Status update Email 9. Permission from Bruce W. to disable ECMWF capability.	Email 10. IBM cluster tests validated by Fred Rose

Table 2: Regrid MOA OpenSource Delivery Action Items

Action Item	Requirement Definition	Status Update	Verification of completion
Implement Regrid MOA Requirement 1.1	Email 4. States requirement to proceed with OMI	Email 5. DMT requesting guidance for potential problem Email 6. DMT repeating request with more information, ST responses	Email 11. OMI implementaion approved by Fred Rose
Implement Regrid MOA Requirement 1.2	Email 8. Definitive answer regarding use of climatology	Email 7. Identifies source of data for climatology.	Email 12. Climatology approved by Fred Rose
Update Documentation (Table 1, Row 8)	Required to implement 1.0, 1.1, and 1.2	Documentation updated and submitted to SSIT	Email 13. Operators Manual Email 14. Test Plan Email 15. DPC

Email 1.

Date: Thu, 19 May 2005 13:34:59 -0400 (EDT)
From: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Reply-To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: Re: (Fwd) -ansi Fortran
To: l.h.coleman@larc.nasa.gov

Lisa,

I compiled the MOA code using the ANSI flag and had no problems. You had wanted me to make sure the code was ANSI compliant.

Tom

>From: l.h.coleman@larc.nasa.gov
>Date: Thu, 19 May 2005 13:31:05 -0400
>To: t.e.caldwell@larc.nasa.gov
>Subject: (Fwd) -ansi Fortran
>MIME-Version: 1.0
>
>Tom,
>
>I think you asked me something about this recently. If not, you know
>where your delete button is.
>
>Lisa
>
>
>--- Forwarded mail from j.c.stassi@larc.nasa.gov
>
>From: "Joe Stassi" <stassi@saisun06.larc.nasa.gov>
>Date: Tue, 15 Feb 2005 13:20:26 -0500
>Reply-To: j.c.stassi@larc.nasa.gov
>To: p.l.spence@larc.nasa.gov
>Subject: -ansi Fortran
>Cc: l.h.coleman@larc.nasa.gov, j.l.robbins@larc.nasa.gov
>
>Pete,
>
>You were right. The SGI Fortran compiler has three -ansi flags.
>
> -ansi: strict ansi
> -ansiE: issue error message for non standard features
> -ansiW: issue warning messages for non standard features
>

>

Email 2.

Date: Fri, 16 Sep 2005 10:23:04 -0400 (EDT)
From: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Reply-To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: MOA cluster issues
To: l.h.coleman@larc.nasa.gov

Lisa,

I asked about the MOA conversion because I have attempted to run MOA on manila. I have not gotten past the compilation stage yet because the 32-bit ECMWF libraries need to be recompiled on the new platform. However, the latest ECMWF codes available are missing a function used by MOA. In the past, this has prevented me from recompiling the code with new libraries. I believe we have a few options for this problem:

1. I can try to understand the ECMWF codes enough to find another method of doing what we need to do in MOA, allowing me to use the new libraries. I am not confident in my ability to do this.

2. We can remove all of the ECMWF stuff from the code. This is fine with me, but I know that ASDC and Science probably won't like that.

3. We can keep the code running on the current platform.

What do you think?

Tom

Email 3.

Date: Mon, 19 Sep 2005 13:57:13 -0400 (EDT)
From: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Reply-To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: MOA on manila
To: l.h.coleman@larc.nasa.gov
Cc: s.m.zentz@larc.nasa.gov

Lisa,

I have successfully run MOA on manila for GEOS4. I compared the results to production version of the output and there are differences, as I expected.

However, the differences only seem to affect values at the 0.0001 level of accuracy. I am attaching the comparison file so you can see what I mean.

Tom

Email 4.

Date: Wed, 11 Jan 2006 14:38:02 -0500
To: Fred Rose <f.g.rose@larc.nasa.gov>, l.h.coleman@larc.nasa.gov
From: Tom Charlock <Thomas.P.Charlock@nasa.gov>
Subject: OMI ozone as CERES candidate to backup SMOBA

Lisa,

Please proceed with OMI as our candidate backup for ozone.

Tom

At 2:27 PM -0500 1/11/06, Fred Rose wrote:
>Tom,
>
>I'm sure Scott could program up code to access the ASCII files like..
>ftp://toms.gsfc.nasa.gov/pub/omi/data/ozone/Y2006/L3_ozone_omi_20060101.txt
>
>But I don't know if the DAAC needs some sort of agreemeent with OMI
>to have data sent to them , or made available or what...
>That's in the realm of Lisa and Erika , Sue Sorlie ...
>
>
>
>Tom Charlock wrote:
>>
>> Fred,
>>
>> You work with the DMT on various issues. Does the information on
>>
>> http://toms.gsfc.nasa.gov/
>>
>> have enough for DMT to proceed with the programming of OMI as
>> backup for SMOBA (replacing the TOMS backup of SMOBA)?
>>
>> From "image link" on that page, I found OMI O3 maps for this week.
>> From "data link", I found ASCII files; if I did some footwork (inserted
>> blanks, etc.), I could plot them with Matlab.
>>
>> Perhaps they require a more official source for OMI. Unfortunately,

>> when I clicked on the red "OMI", the subsequent "OMI: EOS Data"
>> led to no place (I think "no place" translates as "utopia" Church Latin -
>> hence the title of Thomas More's book Utopia. One of his early jobs
>> was burning the guys who distributed another book, Tyndale's
>> English translation of the Bible. More eventually lost his head
>> by disagreeing with Henry VIII on other matters.).
>>
>> Tom
>>
>> --
>>

Date: Wed, 11 Jan 2006 14:26:55 -0500
From: Steven Pawson <pawson@gmao.gsfc.nasa.gov>
Organization: NASA/GMAO
X-Accept-Language: en-us, en
To: Tom Charlock <Thomas.P.Charlock@nasa.gov>
Subject: Re: [Fwd: GEOS4 ozone as CERES Edition 3 backup]
X-GMAO-MailScanner-Information: Please contact the GMAO SysAdmin Group for more information
X-GMAO-MailScanner: Found to be clean
X-GMAO-MailScanner-SpamCheck: not spam, SpamAssassin (score=-5.1, required 6, autolearn=not spam, AWL 0.00, BAYES_00 -5.20, EMAIL_ATTRIBUTION -0.50, IN_REP_TO -0.37, QUOTED_EMAIL_TEXT -0.38, REFERENCES -0.00, REPLY_WITH_QUOTES 0.00, SIGNATURE_LONG_SPARSE -0.49, USER_AGENT_MOZILLA_UA 0.00)
X-MailScanner-From: pawson@gmao.gsfc.nasa.gov
X-Proofpoint-Spam-Details: rule=notspam policy= score=0 mlx=0 adultscore=0 adjust=0 engine=2.5.0-05120501 definitions=3.0.0-05122518

Tom,

Many thanks for your note: I have come out of this better educated, as I was not aware what SMOBA is or what all of your ceres products are. Yes - the vertical distribution of ozone will have an important impact on the absorption of thermal IR radiation in the stratosphere: it's a surprisingly large amount of the total energy input into the stratosphere, in the context of the standard story that "ozone absorbs incoming solar radiation in the stratosphere."

Since you really need profiles, if you cannot get them elsewhere we would be able to provide you with something assimilated. Just that it may come from either GEOS-4 first look or from GEOS-5 and would not be a pure SBUV V6 product. This would not be consistent with your past record from SMOBA, but neither would a GEOS-4/ceres ozone assimilation if we were to have had that.

Maybe the best approach is to see what we have available, when and

if the SMOBA runs product ends.
Also, you may be aware that EOS-MLS produces stratospheric profiles that are more or less co-located with OMI total-column measurements (on the same platform, just that OMI looks down and MLS looks either forwards or backwards [can't remember which] to do limb sounding). MLS have much better information in the lower stratosphere.
Steven

Tom Charlock wrote:

>Steve,
>
>Thanks to you and Man-Li for spending your time on our issue (getting
>backup source of ozone for CERES Edition 3, just in case SMOBA is not
>available).
>
>At this juncture, we will continue to look at OMI as the backup for
>trusty SMOBA, as we have been advised earlier.
>
>I see that my idea of seeking an "economical" (less work for all concerned)
>backup ozone profile from GEOS4 is not viable.
>
>By the way, Steve, we do use SMOBA because it provides a reasonable
>height profile of ozone, in addition to the total ozone loading. The ozone
>profile influences some of our specialized products, like the attached
>plot for the convergence of broadband LW (thermal IR) flux between
>70 hPa and the top of atmosphere during May 2000. If we'd used the
>TOMS backup (or the coming OMI), we'd have only the total ozone
>loading, and then would've distributed it as per climatology.
>
>Tom
>
>
>At 11:35 AM -0500 1/11/06, Steven Pawson wrote:
>
>>Dear Man-Li and Tom,
>>
>> I write about the GMAO's ozone assimilation, in response to the
>>query that Man-Li forwarded to me.
>>
>> The most important point is that ozone is not assimilated as
>>part of the standard GEOS-4 system. It is assimilated in an
>>off-line, univariate system constrained by GEOS-4 meteorology. The
>>documentation referred to is about this product. However, we have

>>not produced an routine ozone assimilation in conjunction with the
>>ceres reanalysis, so there is certainly no historical (1979
>>onwards) record to provide. In principle, it would be possible to
>>turn on the ozone assimilation for the future, if there is demand
>>for the GEOS-4 assimilated ozone product. There are caveats,
>>though.
>> For GEOS-4, we have (operationally) assimilated SBUV ozone data,
>>Version 6 retrievals, which give partial columns for about 12 thick
>>layers above (pressures lower than 64hPa) and a total column. The
>>SBUV science team are now moving to their Version 8 retrieval
>>package, which works in quite a different manner to the Version 6 -
>>notably the products are not at the same levels. This means that
>>at some stage the (NOAA) operational V6 products will be superceded
>>by V8 products. From our perspective, with the transition to
>>GEOS-5, we are unlikely to have the resources to adapt the GEOS-4
>>ozone assimilation to the SBUV V8 dataset, which means there may be
>>no guarantee that the GEOS-4 product would be feasible as far ahead
>>as the planned end of GEOS-4/Ceres reprocessing.
>>
>> Probably the final answer to your needs will depend on where
>>your sensitivities are. Because you have been using only TOMS
>>ozone (total columns) in the past, I suspect you do not have
>>sensitivity to the shape of the profile? Horizontal structure is
>>another issue: TOMS has a relatively small field of view compared
>>to SBUV, so cloud-free pixels are possible (SBUV almost always has
>>some cloud contamination with a footprint approaching 200*200km2) -
>>OMI is even finer than TOMS, so more cloud-free pixels are likely.
>>The TOMS instruments provide clear-sky columns and cloudy-sky
>>columns, where the cloudy ones are the above-cloud retrieval plus
>>some additional column that depends on the assumed cloud height.
>>From what I understand, OMI are still working to refine their
>>retrievals in some conditions - but I am not on the science team,
>>so this may not be entirely accurate. You would seem to have three
>>options: to aim at OMI, to go with SBUV, or to rely on an
>>assimilation that we perform. The last two options are somewhat
>>dependent on the future of SBUV V6 data, although even V8 will
>>provide a total column that could be of use to you.
>> I hope this helps. I realize I am not answering directly to
>>your needs as yet, but I am trying to give some (hopefully)
>>realistic assessments of the situation.
>> Steven
>>
>>
>>Man Li Wu wrote:
>>
>>>Steve.

>>>
>>>Sorry to bother you again.
>>>
>>>Would you please help answer the Ozone issue again.
>>>Tom of CERES would like know whether whether GOES4
>>>has good Ozone. They would like to use as backup.
>>>
>>>Thanks.
>>>
>>>Man Li
>>>
>>>
>>>----------
>>>
>>>Subject:
>>>GEOS4 ozone as CERES Edition 3 backup
>>>From:
>>>Tom Charlock <Thomas.P.Charlock@nasa.gov>
>>>Date:
>>>Wed, 11 Jan 2006 09:27:48 -0500
>>>To:
>>>Man Li Wu <mwu@gmao.gsfc.nasa.gov>
>>>
>>>To:
>>>Man Li Wu <mwu@gmao.gsfc.nasa.gov>
>>>
>>>
>>>Man-Li,
>>>
>>>Are you very confident that the GEOS4 product (the one that GMAO
>>>will deliver
>>>to Langley for processing of the CERES Edition 3) will have a
>>>reasonably good
>>>ozone profile?
>>>
>>>We'd like to consider the ozone profile of GEOS4 as our "backup" ozone.
>>>We now use SMOBA for the primary ozone source and TOMS as backup.
>>>I have previously burdened you, Steve Pawson, and SKY with correspondence
>>>on our ozone backup; and you suggested switching from TOMS to OMI.
>>>But because programming is already done here to obtain the temperature,
>>>humidity, and surface wind from GEOS4, I thought it would be easier for
>>>our people to simply write code for ozone, too. I presume the format
>>>and data links to the original OMI would involve more coding effort.
>>>
>>>My guess is that, as long as GMAO runs GEOS4 for CERES, there will
>>>be good ozone profiles in GEOS4; and Langley could get that ozone,

>>>if needed.
>>>
>>>Fred called my attention to the GEOS-4.x documentation
>>>
>>>http://gmao.gsfc.nasa.gov/operations/GMAO-1001v5.3.pdf
>>>
>>>which refers to ozone on page 27 of the pdf file (page 20 on paper) as
>>>
>>>"tsyn3d_chm_p"
>>>
>>>
>>>Thank you,
>>>
>>>Tom
>>
>>--
>>Steven Pawson - Physical Scientist, NASA's Global Modeling and
>>Assimilation Office
>>pawson@gmao.gsfc.nasa.gov - Tel: +1 301 614 6159 - FAX: +1 301 614 6297
>>
>>Mail: Global Modeling and Assimilation Office, Code 610.1
>> NASA Goddard Space Flight Center
>> 8800 Greenbelt Road
>> Greenbelt, MD 20771-0001
>> USA
>>

Email 5.

Date: Wed, 25 Jan 2006 13:15:13 -0500
To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>,
  l.h.coleman@larc.nasa.gov
From: Tom Charlock <Thomas.P.Charlock@nasa.gov>
Subject: Re: OMI data
Cc: rose@srbsun.larc.nasa.gov, t.p.charlock@larc.nasa.gov

Tom Caldwell,

"Opinions?".

Good for us, that you've scoped this out. An algorithm like the one used
for EPTOMS should work fine.

Tom

At 1:08 PM -0500 1/25/06, Thomas E. Caldwell wrote:

>SARB folks,
>
>Some time ago, I was able to run a month of RegridMOA (Oct 2004)
>using the OMI
>data as the ozone source. I looked at the plots and saw coverage
>over the whole
>globe except for extreme polar latitudes and one hole in the day 17 data.
>
>The main question now is:
>
>Do you want us to use OMI data with the same algorithm which was
>used by EPToms?
>This approach takes data from current day and previous day to make sure there
>are no holes.
>
>If we are to implement the use of more data days in processing to protect
>against gaps, our code will have to be changed.
>
>Please bear in mind that this will be our BACKUP ozone source and so
>will not be
>used much at all.
>
>Opinions?
>
>Tom
>

Email 6.

Date: Mon, 30 Jan 2006 14:49:52 -0500
From: Fred Rose <f.g.rose@larc.nasa.gov>
To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
CC: t.p.charlock@larc.nasa.gov, l.h.coleman@larc.nasa.gov
Subject: Re: Ozone plot holes

Tom,

A set of 12month x 36 latitude data could
be worked up from

ftp://toms.gsfc.nasa.gov/pub/eptoms/data/zonal_means/ozone/ZM_month_ozone_EP.txt

Just using the average of the sunlit months for
the dark months. Ozone for the dark months
for LW calculations is not that critical.

"Thomas E. Caldwell" wrote:
>
> Fred,
>
> Do you know of any ozone climatologies that could be used?
>
> Tom
>
> >Date: Mon, 30 Jan 2006 11:11:01 -0500
> >From: Fred Rose <f.g.rose@larc.nasa.gov>
> >X-Accept-Language: en
> >To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
> >CC: t.p.charlock@larc.nasa.gov, l.h.coleman@larc.nasa.gov
> >Subject: Re: Ozone plot holes
> >MIME-Version: 1.0
> >Content-Transfer-Encoding: 7bit
> >
> >All,
> >   If these ozone "gaps" infrequent a simple
> >last resort might be a zonal , monthly climatology
> >(12months X 180 latitudes.)
> >
> >
> >"Thomas E. Caldwell" wrote:
> >>
> >> Tom,
> >>
> >> I found some holes in day 17 of October 2004 using the OMI data. I have
> >> attached a Postscript plot so that you can see them.
> >>
> >> One option to solve this is to use more than two days of ozone data for
> >> interpolation, which requires code changes.
> >>
> >> What do you think?
> >>
> >> Tom
> >>
> ----------
> ----------
> >>   Name: MOA_prt.ps
> >>   MOA_prt.ps   Type: Postscript Document (APPLICATION/postscript)
> >>   Encoding: BASE64
> >>   Description: MOA_prt.ps
> >

Email 7.

Date: Tue, 7 Feb 2006 13:57:37 -0500 (EST)
From: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Reply-To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: ozone climatology
To: l.h.coleman@larc.nasa.gov

Lisa,

FYI The source for the ozone climatology that Fred suggested is EPToms.

Tom

Email 8.

Date: Wed, 8 Feb 2006 11:03:07 -0500
To: Shashi Gupta <s.k.gupta@larc.nasa.gov>
From: Tom Charlock <Thomas.P.Charlock@nasa.gov>
Subject: Re: OMI column ozone
Cc: "Shashi K. Gupta" <s.k.gupta@larc.nasa.gov>,
Fred Rose <f.g.rose@larc.nasa.gov>,
Erika Geier <e.b.geier@larc.nasa.gov>,
"David P. Kratz" <david.p.kratz@nasa.gov>,
"Paul W. Stackhouse" <paul.w.stackhouse@nasa.gov>,
Thomas Caldwell <t.e.caldwell@larc.nasa.gov>,
Lisa Coleman <l.h.coleman@larc.nasa.gov>,
Wenying Su <w.su@larc.nasa.gov>, David Rutan <d.a.rutan@larc.nasa.gov>

Shashi,

Thank you for sending the information on OMI and on the reliability
of our sources of ozone data. Based on your suggestions, I recommend
that Tom Caldwell program CERES to continue on the track to use

1. SMOBA
2. OMI (if no SMOBA)
3. Climatology

The program structure would be similar to what he has to date
(TOMS instead of OMI).

My main concern about ozone is the coming surface UV product.

It will be in SYN Edition 2.

Based on this ozone dialog, it appears that total ozone should be included in the Data Product Catalog (DPC) for Edition 3 of SYN. Outside users of surface UV will get it from SYN (or more likely, from a coarse resolution on line product that we'll distribute via CAVE). If by some very small chance, our ozone source turns sour (climatology) for a brief time frame, the user of surface UV will then see it.

We have to change our Data Product Summary to indicate that the surface UV will also be in CRS for Edition 3. The user here is us; we need it for validation. We also need CRS Edition 3 with Wenying's "new" UV; and new total sky PAR and new PAR direct/diffuse ratio.

Other new products for Edition 3, that are not yet on the Data Product Summary, include CRS supplementary broadband all-sky SW flux and radiance from Seiji's LUT, and CRS supplementary pristine SW fluxes at surface and TOA from a COART-based LUT.

Tom

At 2:37 PM -0500 2/7/06, Shashi Gupta wrote:
>Hi Tom,
>
>I just had a brief chat with Fred regarding the choice of back-up
>ozone source for CERES in place of TOMS which ceased operation
>recently. Fred tells me that you are now inclined to go with a
>zonal monthly climatology based on TOMS data instead of TOMS-like
>OMI, primarily because of the inter-orbit gaps that are present in
>the OMI data. This is just to bring to your attention that similar
>gaps have always existed in TOMS data also. I believe, they have
>never attracted our attention because SMOBA supply line has been
>very steady. I do not recall any significant interruption in the
>SMOBA stream since CERES started using it. In fact, inter-orbit
>gaps in OMI data, at least the ones that Fred showed me, were
>smaller overall than were present in TOMS fields. Bottom line: OMI
>is at least as good for the job as TOMS was.
>
>All that said, I think having some kind of climatology as a final
>back-up is still a good idea. In fact, I recall that when we first
>put together the ozone hierarchy for CERES in mid 1990's, we did
>have a monthly zonal climatology (based on Eric Fleming's data from
>Goddard) as a final back-up.
>

>Shashi
>

Email 9.

Date: Mon, 6 Feb 2006 11:35:41 -0500
To: l.h.coleman@larc.nasa.gov
From: "Bruce A. Wielicki" <b.a.wielicki@nasa.gov>
Subject: Re: (Fwd) MOA issue
Cc: b.a.wielicki@larc.nasa.gov, m.m.little@larc.nasa.gov,
t.e.caldwell@larc.nasa.gov, l.h.coleman@larc.nasa.gov,
t.p.charlock@larc.nasa.gov

currently we have no hard requirement for ECMWF. we would more likely shift to GEOS-5 if we do any shifting of MOA from GEOS-4. But we currently have no hard requirement to shift from GEOS 4.0.3. this issue came up in the CERES Edition 3 discussions in Nov 2005. A few years from now, GEOS-5 may be relevant, but its only starting up this summer, and its a lot of work to evaluate it: not likely ready in time for CERES Edition 3. maybe Edition 4.

so: don't see ECMWF issue.

cheers
bruce

At 10:33 AM -0500 2/6/06, l.h.coleman@LARC.NASA.GOV wrote:
>Bruce,
>
>The story here is that the libraries we received from ECMWF don't work in
>the our new Linux world. I'm told it's due to some 32-bit/64-bit interface
>issues. For the time being, we have a version of the MOA code that does
>not include the ECMWF option. We will maintain a version on the SGI
>(at least at the SCF) that has the ECMWF capability.
>
>Since we are not currently using ECMWF data, do we need to pursue eventually
>having the ECMWF option work in the Linux environment? We don't think it is
>impossible, but do think it is time-consuming and not straight forward.
>A solution may be obvious to someone more savvy than us, which is another
>other option we can pursue. I know Mike Little had some suggestions when
>it came up in a casual discussion.
>
>Thank you,
>Lisa
>
>--- Forwarded mail from "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>

>
>Date: Mon, 6 Feb 2006 09:58:17 -0500 (EST)
>From: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
>Reply-To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
>Subject: MOA issue
>To: l.h.coleman@larc.nasa.gov
>
>Lisa,
>
>This is something of a back burner item, but it needs to be addressed at some
>point.
>
>I have run MOA on IBM cluster after turning off ECMWF code. The issue is
>whether or not we will need to implement use of ECMWF for porting to cluster
>environment. If we do want to use it, it raises the issue about setting up a
>new purchase agreement with ECMWF and making our code work with it. If we
>don't, I'm assuming they will want some other type of backup data source.
>
>Who should I contact to get this ball rolling?
>
>Tom
>

Email 10.

X-Unix-From: f.g.rose@larc.nasa.gov Wed Feb 15 13:20:13 2006
Date: Wed, 15 Feb 2006 13:27:56 -0500
From: Fred Rose <f.g.rose@larc.nasa.gov>
X-Accept-Language: en
To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: Re: MOA validation
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

Tom,
Looks like they are the same to 7 significant digits
Thats about as good as it gets....

"Thomas E. Caldwell" wrote:
>
> Fred,
>
> Continuing the subject of validating MOA on the cluster, I need you to look at
> the attached comparison output between a MOA run on SGI and on the IBM cluster.
> Please let me know if the results are acceptable.
>
> Thanks,

> Tom
>
> Name: CER_MOA_CERES_SSIT-DAO-GEOS4_999999.20041015_test_suites_results
> CER_MOA_CERES_SSIT-DAO-GEOS4_999999.20041015_test_suites_results Type: Plain Text (TEXT/plain)
> Description: CER_MOA_CERES_SSIT-DAO-GEOS4_999999.20041015_test_suites_results

Email 11.

Date: Fri, 17 Feb 2006 12:58:37 -0500
From: Fred Rose <f.g.rose@larc.nasa.gov>
X-Accept-Language: en
To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
CC: l.h.coleman@larc.nasa.gov
Subject: Re: [Fwd: Aura OMI TOMS-Like Daily Global 1.0˚x1.25˚ Products]
MIME-Version: 1.0
Content-Transfer-Encoding: 8bit

Tom,
From the earlier plots I was fairly confident the Collumn O3
from OMI was implemented correctly
As long as you are pulling this from the MOA files themselves
and not the raw input data.
I wanted to see If You were confident it was OK.

"Thomas E. Caldwell" wrote:
>
> Fred,
>
> I have looked at several plots on the OMI website and compared them to ozone
> plots from my MOA files. I am confident that I am correctly putting OMI ozone
> into the MOA product.
>
> I did not do a monthly average for two reasons:
>
> 1. It would take me longer to put together the averaging program.
> 2. A direct comparison between their daily plots and mine verifies that the MOA
> ozone is correct.
>
> Let me know what you think.
>
> Tom
>
> >Date: Fri, 17 Feb 2006 10:26:30 -0500

> >From: Fred Rose <f.g.rose@larc.nasa.gov>
> >X-Accept-Language: en
> >To: "T.E Caldwell" <T.E.CALDWELL@larc.nasa.gov>
> >Subject: [Fwd: Aura OMI TOMS-Like Daily Global 1.0˚x1.25˚ Products]
> >MIME-Version: 1.0
> >
> >Tom ,
> >Had you looked at this web page ???
> >And compared the Plots ???
> >
> >
> >"Thomas E. Caldwell" wrote:
> >>
> >> Fred,
> >>
> >> Have you had a chance to look at the ozone in the OMI MOAs I mentioned?
> >> I need to know if they are OK so I can get a MOA delivery started.
> >>
> >> Thanks,
> >> Tom
> >>
> >
> >-------- Original Message --------
> >Subject: Aura OMI TOMS-Like Daily Global 1.0˚x1.25˚ Products
> >Date: Tue, 14 Feb 2006 16:17:14 -0500
> >From: Fred Rose <f.g.rose@larc.nasa.gov>
> >Organization: AS&M
> >To: "T.E Caldwell" <T.E.CALDWELL@larc.nasa.gov>
> >CC: Lisa Coleman <L.H.Coleman@larc.nasa.gov>
> >
> >Tom,
> >
> >If you want to check the plots you have done against another source of plots
> try
> >
> >http://reason.gsfc.nasa.gov/OPS/Giovanni_toms/toms.omi.shtml
> >
> >This attached plot reproduces pretty well the plot you already sent..
> >for 20041017.
> >
> >If you can make a monthly average plot of your MOA data
> > this monthly aveg plot for 200410 is cross validation of what you have!
>

Email 12.

Date: Tue, 14 Feb 2006 15:16:48 -0500
From: Fred Rose <f.g.rose@larc.nasa.gov>
X-Accept-Language: en
To: "Thomas E. Caldwell" <t.e.caldwell@larc.nasa.gov>
Subject: Re: ozone climatology plot
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

Tom,
Sorry for the delay , Yes the plot looks about as I'd expect
when a zonal monthly climatology is inserted...

"Thomas E. Caldwell" wrote:
>
> Fred,
>
> I have run a MOA plot using the EPToms climatology to fill in the gaps. Please
> look at the attached plot and let me know what you think.
>
> Tom
>
>
> ----------

> Name: MOA_prt.eps
> MOA_prt.eps Type: Postscript Document (APPLICATION/postscript)
> Encoding: BASE64
> Description: MOA_prt.eps

Email 13.

From: j.h.saunders@larc.nasa.gov
Date: Wed, 1 Mar 2006 15:17:44 -0500
To: cerescm@larc.nasa.gov, e.b.geier@larc.nasa.gov, s.k.nolan@larc.nasa.gov,
t.e.caldwell@larc.nasa.gov, l.h.coleman@larc.nasa.gov
Subject: CERES Regrid MOA (SS 12.0) Operator's Manual R3V6 - SCCR 615

The CERES Regrid Meteorological, Ozone, and Aerosol (MOA),
Subsystem 12.0 Operator's Manual, Release 3, Version 6,
has been posted on the CERES Operator's Manual Web page
(http://asd-www.larc.nasa.gov/ceres/ops_man/).
This includes the pdf and tar files.

Thanks,

Joanne

Email 14.

From: j.h.saunders@larc.nasa.gov
Date: Wed, 15 Mar 2006 14:46:02 -0500
To: cerescm@larc.nasa.gov, e.b.geier@larc.nasa.gov, t.e.caldwell@larc.nasa.gov, l.h.coleman@larc.nasa.gov
Subject: CERES Regrid MOA (SS 12.0) Test Plan R4V7 - SCCR 615
MIME-Version: 1.0

The CERES Regrid Meteorological, Ozone, and
Aerosol (MOA) Subsystem 12.0 Test Plan, Release 4,
Version 7, has been posted on the CERES Test Plans Web page.
(http://asd-www.larc.nasa.gov/ceres/test_plans/).
This includes the pdf and tar files.

Thanks,

Joanne

Email 15.

From: j.h.saunders@larc.nasa.gov
Date: Tue, 7 Mar 2006 08:45:14 -0500
To: larc@eos.nasa.gov, cerescm@larc.nasa.gov, e.a.kizer@larc.nasa.gov, t.e.caldwell@larc.nasa.gov, l.h.coleman@larc.nasa.gov
Subject: CERES Data Products Catalog - MOA
MIME-Version: 1.0

The entire Data Products Catalog was regenerated and
posted to the CERES Data Products Catalog Web page.

MOA R3V2 replaced the previous version.

http://earth-www.larc.nasa.gov/ceresdoc/DPC/DPC_current/DPC.html

Thanks,

Joanne